

**Amendments to the Specification:**

Please replace the abstract with the following amended abstract:

An image processing unit ~~(100,200,300)~~ for computing a sequence of output images on basis of a sequence of input images, comprises: a motion estimation unit ~~(102)~~ for computing a motion vector field on basis of the input images; a quality measurement unit ~~(104)~~ for computing a value of a quality measure for the motion vector field; an interpolation unit ~~(106)~~ for computing the output images by means of interpolation of pixel values of the input images, on basis of the motion vector field; and control means ~~(108)~~ to control the interpolation unit ~~(106)~~ on basis of the quality measure. The quality measurement unit ~~(104)~~ is arranged to compute the value of the quality measure on basis of a maximum difference between neighboring motion vectors. If the value of the quality measure is lower than a predetermined threshold, then a motion compensated interpolation is performed, else a non-motion compensated interpolation is performed.